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# GCSE GEOGRAPHY

## Resources for Paper 3 Geographical Applications

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To be issued to students 12 weeks before the date of the exam.

### Specimen

This booklet contains three resources as follows:

- Figure 2 – Living in an increasingly urban world: pages 2-3
- Figure 4 – Challenges of urban growth in LICs/NEES: pages 4-5
- Figure 5 – Urban problems in Kolkata – improving the life of the urban poor: pages 6-7

Figure 2

## Living in an increasingly urban world

In 1950, fewer than one in three people lived in a town or city. In 2006, the United Nations (UN) estimated that the world's population was evenly split, with 3.2 billion people living in each of urban and rural areas. It is estimated that in 2015 nearly 60% of the world's population lived in urban areas and this figure is expected to increase to approximately 70% by 2050.

### Rates of urbanisation

Rates of urbanisation vary globally.

As countries change from large rural, agricultural economies to more commercial industrial economies, the population becomes increasingly concentrated in towns and cities.

- Countries that have reached high levels of economic development generally have urban populations of 75% plus.
- Countries at very low levels of economic development usually have urban populations of less than 50%.
- India, China and Nigeria are expected to account for 37% of the projected growth of the world's population. Up to 2050, India is projected to add 404 million people to its urban population.

### The growth of megacities

A megacity is defined as a city that has 10 million or more people. In 1950, New York was the only global megacity. In 2014, there were 28 megacities, 21 of them in LICs/NEEs. Recent estimates suggest that the number of megacities will increase to 41 by 2030 and beyond 50 by 2050.

### Ten of the world's megacities (2014)

Name	Estimated population (millions)
Tokyo	37.9
Mumbai	20.7
Lagos	21.0
Dhaka	18.2
São Paulo	21.2
Karachi	24.0
Mexico City	22.2
New York	23.6
Jakarta	30.3
Kolkata	14.7

**Figure 2 continued**  
**Why are cities in LICs/NEEs growing?**

### Shanghai leads China's urbanisation change

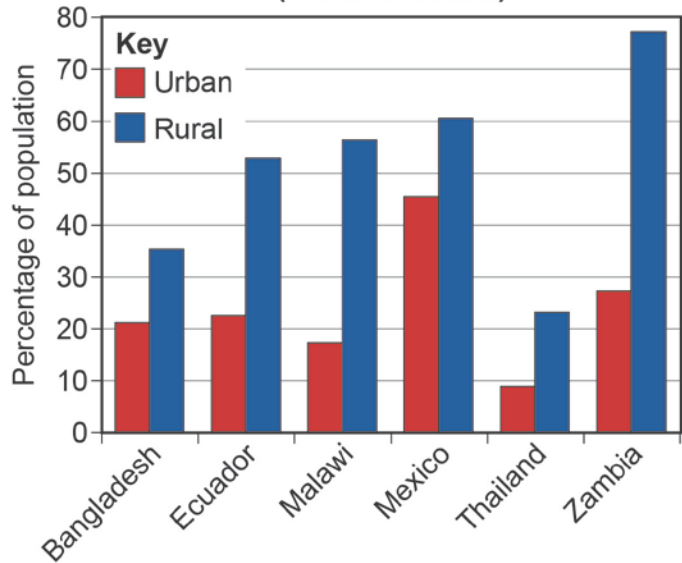
Shanghai's population has reached the 20 million mark in the past year as more than 3 million people have flocked to the city to find work. Many of these people are young and this will lead to an increase in the birth rate, pushing the city's population up even faster.

The staggering shift from the countryside to the wealthier urban centres is a common feature across the country.

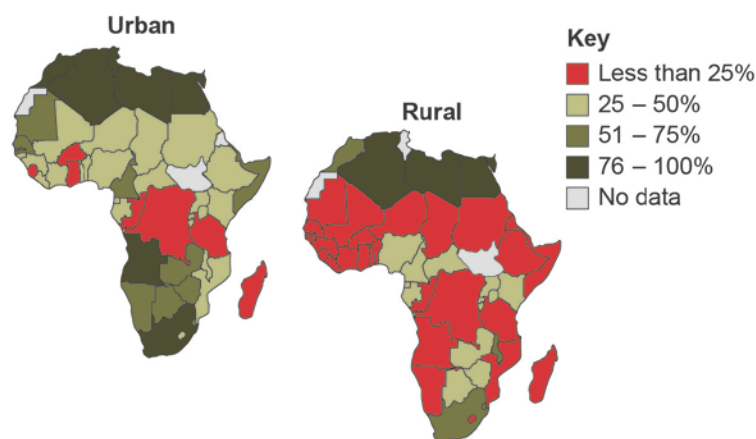
Shanghai, which is seen as the business capital of China, is drawing millions of peasant labourers to its vast construction boom and higher wages.

The millions of rural, migrant workers in Shanghai can earn much higher incomes than in their home villages where many people live on less than the equivalent of 60p a day.

### Proportion of the population living below the national poverty line, 2010 estimates (urban and rural)



### Use of improved sanitation facilities, 2010



### Hunger fuels urban movement

José Ramirez, 31, left his farm in rural Brazil to travel to the city of São Paulo to find work. The rains had been poor and his small farm produced less food every year.

When drought destroyed the crops on the farm José's wife and children joined him in São Paulo.

"At least in the city we can find basic jobs and a place to live. I can now feed my family and the children have a home with running water and can go to school", said José.

### Benefits created by urban growth

It is estimated that 80% of economic growth in LICs/NEEs occurs in urban areas. Cities create a wide range of economic and social benefits that are not always available in rural areas. This includes social services, such as education and healthcare, and access to basic facilities like clean water. Urban areas are often transfer hubs and consequently attract commercial development. Many cities in LICs/NEEs are financial centres and contain a large number of international businesses. Also, because of the growing population and increasing wealth, there is employment available in both the formal and informal sectors. These cities are often referred to as 'engines of growth' because of the way that they create socio-economic benefits and are important to the economic development of the whole country.



Figure 4

## Challenges of urban growth in LICs/NEEs

### The environmental cost of urban growth

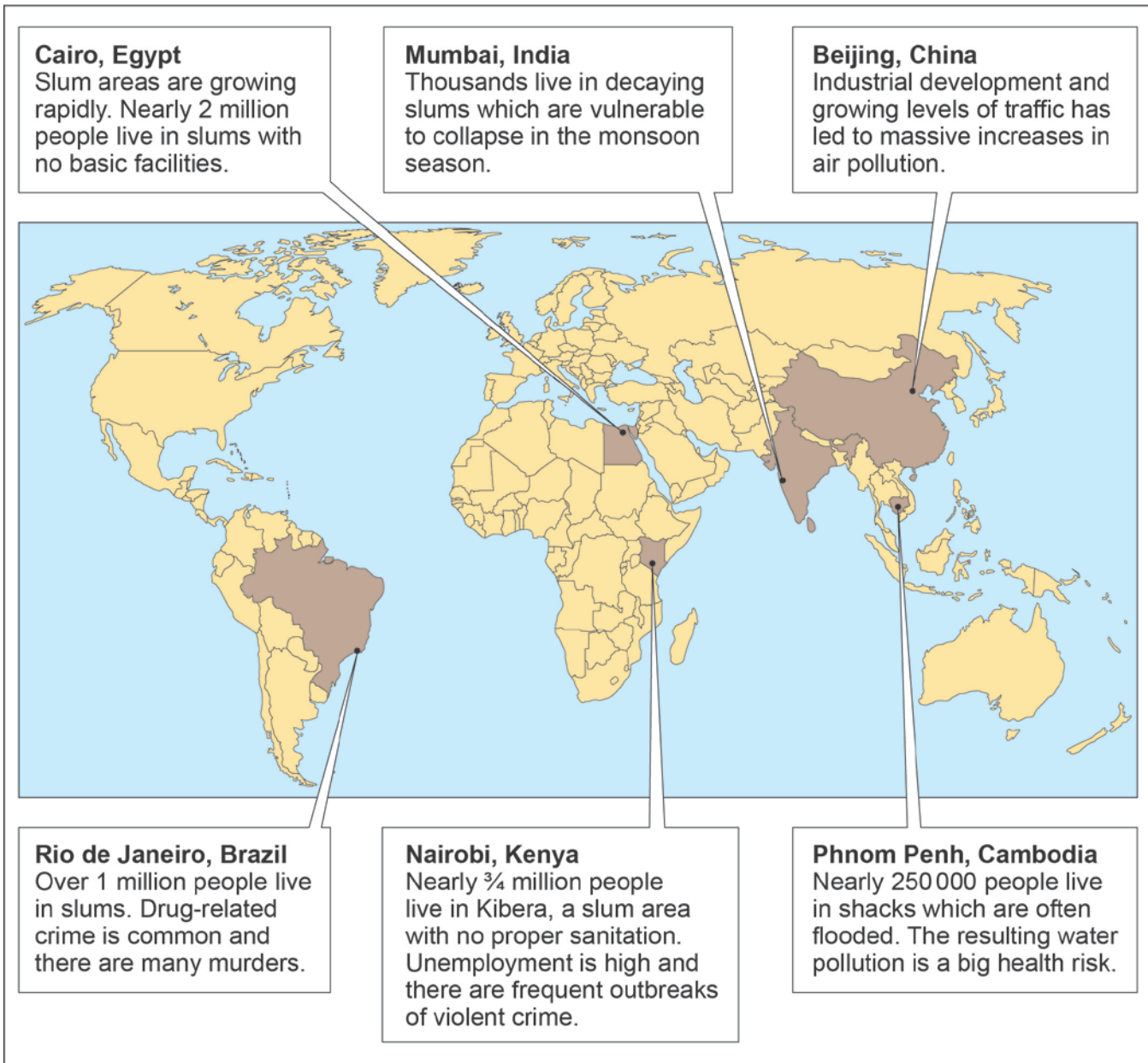
The use of cheap, poor quality coal and the increase in car ownership is creating serious air pollution problems in many LIC/NEE cities. In 2010, it was estimated that fifteen of the world's dirtiest cities were in China. Rivers in many of the fastest growing cities are increasingly polluted by industrial and human waste, and coping with the growing volumes of garbage is a real problem. Vast garbage tips are found on the edge of many LIC/NEE cities, creating toxic waste dumps where all sorts of dangerous chemicals seep into water systems. In addition to this, as cities grow, more and more green space is lost.

At a recent environmental conference, one speaker said "Without effective management, the general quality of urban environments will decline – leading to poorer levels of health for the whole community."





**Figure 4 continued**  
**The pressures of urban growth in LICs/NEEs**



### The growth of urban slums in LICs/NEEs

#### United Nations study finds that nearly 1 billion people are living in slums

A recent United Nations (UN) report found that 940 million people are living in areas where they have no clean water, sanitation or legal security. The report found that urban slums are growing faster than expected and conditions in many cities are getting worse. Africa has 20% of the world's slum dwellers and South America 14%, but it is in Asia where the situation is worse – with nearly 600 million people living in slums.

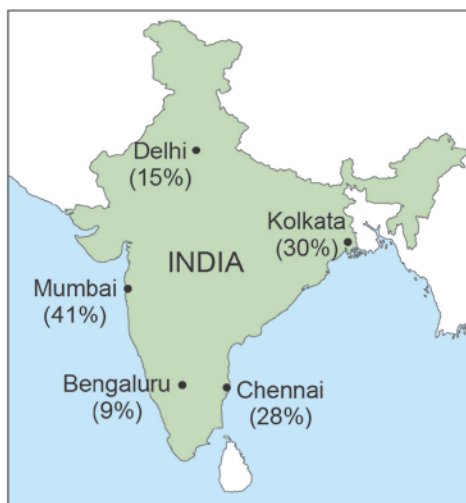
#### Slum population (billions)

1990	0.75
1995	0.80
2000	0.90
2005	1.00
2010	1.10
2015	1.25
2020 (est.)	1.30

Figure 5

## Urban problems in Kolkata – improving the life of the urban poor

% of the population living in slums in Indian cities



Facilities in low income areas of Kolkata (%)

Facility	Low income area	Very low income area
Garbage collection	12	0
Link to sanitation system	56	28
Household water supply	0	0
Household bathroom	2	0
Access to electricity	15	0

### Cyclone Komen brings flood misery

Cyclone Komen brought torrential rain yesterday, flooding large parts of the city and bringing traffic to a standstill. The situation was made worse by record high water levels in local rivers. There are reports of many areas being up to a metre deep in water and many areas have lost their water and electricity supplies. The local authority has installed temporary pumps but with continued heavy rainfall they are making little impact. If the situation continues there is a fear of growing water contamination and disease.

### Kolkata – a city at bursting point

Kolkata is a sprawling metropolitan area and is home to nearly 15 million people. The city is at bursting point, with environmental threats in the air, water and soil. Air quality is a real problem and for much of the year a layer of smog sits above the city and it is reported that seven out of ten of Kolkata's residents suffer from some form of respiratory illness. The river Ganga, running through the city, is one of the most polluted rivers in the world. Factories discharge industrial waste into the river and human waste flows into smaller rivers which flow into the Ganges. In Dhap, on the edge of the city is the city's largest landfill site. It stands nearly 30 metres high and covers an area of 25 acres. Chemical waste seeps into the ground under the site, polluting both soil and groundwater.

### Natural disaster risk: Kolkata ranks seventh in global city list

Kolkata has emerged as the world's seventh riskiest city when it comes to being under threat from all types of natural disasters.

An assessment of 616 cities around the world for their risk of earthquake, cyclone, storm surge, river flooding and tsunami has found 14.7 million Kolkatans face serious risk from natural disasters. When it comes to only the threat of river floods, 10.5 million Kolkatans are at risk, but the city is also fifth in terms of tsunami risk, with more than half a million people exposed. It is also threatened by cyclones.

Kolkata is situated near Sunderbans, the world's largest delta, and is susceptible to flooding every year during the June-September rainy season. The 140-year-old drainage system in the former capital of British India is among the oldest in the country and covers less than 50% of the city. Kolkata's civic infrastructure is grossly inadequate to tackle a climate-change-triggered disaster, admit officials. Less than 5% of the city's 180 km trunk sewer lines have been desilted. The rest is clogged, making it impossible for water to drain out quickly in case of a sudden flood. With the Bay of Bengal a mere 180 km away, the city is also vulnerable to widespread destruction from storms hitting the coast.



**Figure 5 continued**  
**Addressing issues of urban poverty in Kolkata**

Living conditions in the slums of Kolkata are appalling. Civic amenities such as drinking water, drainage, sanitation and electricity are non-existent or don't work properly. Most slums have a single source of drinking water – a tube well – and often that does not work. Roads are in such bad shape that the slums become inaccessible in the rains. Needless to say, there are also no schools or healthcare.

**Photograph A**



**Photograph B**



### **Project file**

#### **Project 1**

A water-related project partly funded by an aid agency. It will repair leaks in existing water pipes and extend water supply and sanitation systems to some of the slum areas, improving housing conditions in those areas. Water treatment plants will also be built in areas of heavy industry.

#### **Project 2**

A joint government/self-help scheme which will improve housing conditions in some of the poorest areas by providing clean water and toilets. It will also provide low-cost accommodation for about 80 000 people who are living on the streets. Half a million homes and businesses will be given methane stoves, reducing the need to burn coal.

#### **Project 3**

A large-scale project funded by the World Bank which will be put in place over the next ten years. It will provide a waste-water system throughout the city, giving housing and industrial areas sanitation systems to take away sewage and polluted water. At the same time, some of the worst slums will be demolished and the area cleared so that new low-cost housing with proper services can be built in the future.

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